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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,444	06/02/2000	Jung Wen Kang	YHK-045	6857

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FLESHNER & KIM, LLP  
P.O. BOX 221200  
CHANTILLY, VA 20153

EXAMINER

HODGES, MATTHEW P

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/585,444

Applicant(s)

KANG ET AL

Examiner

Matt P Hodges

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☒ Claim(s) 9-12, 14, 24-27, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 15, 23 and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

The Amendment, filed on 04/29/2003, has been entered and acknowledged by the Examiner.

Cancellation of claims 13 and 16-22 has been entered.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 24-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 24, the specification does not disclose the use of a convex surface formed on a striped dielectric pattern that is formed between the first and second electrode.

Regarding claim 25, the specification does not disclose a first electrode that has lands and grooves complying with a wave shaped made by the surfaces of the dielectric patterns and the substrate, where the dielectric pattern is striped shaped and located between the first and second electrode.

Regarding claim 26, the specification does not disclose the use of a wave shaped surface formed on a striped dielectric pattern that is formed between the first and second electrode.

Claim 31 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for certain dielectric patterns formed either on the substrate, on the first electrode and the substrate, or on the first electrode in a radio frequency plasma display panel, it does not reasonably provide enablement for all possible patterns of the dielectric layer separating the first and second electrode in a radio frequency plasma display panel.. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Regarding claim 31, the specification provides enablement for a convex dielectric pattern formed on the substrate, a striped dielectric pattern formed on the first electrode, and an island patterns formed on the first electrode. It does enable all possible patterns of any shape to provide insulation between the first and second electrodes.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 9-12 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Akiba (US 6,414,435).

Regarding claims 9 and 12, Akiba discloses (see figure 15) a plasma display panel including a first electrode (15), a second electrode (17) crossing the first electrode, and a dielectric pattern (18a) between the first and second electrode. (Column 18 lines 4-10). Akiba further discloses (see figure 16) the dielectric pattern (18a) formed between the electrode (17) and perpendicular electrode (15) in a stripe pattern along the full length of the electrode (17).

Regarding claim 10, the recitation of adjusting the thickness of the dielectric pattern to control a leakage current has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Further Akiba teaches the use of varying widths of the dielectric layer between the first and second electrode to adjust the load capacitance, total dielectric strength, and the firing potential. (Column 18 lines 33-47).

Regarding claim 11, examiner notes that the recitation of a dielectric layer entirely coated on the substrate provided with the first and second electrodes and the dielectric pattern is interpreted for the purpose of examination to mean a substrate provided with a first electrode,

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second electrode, and dielectric pattern, where the entirety of the substrate, electrodes, and dielectric pattern are covered with a dielectric layer. Akiba discloses the use of a dielectric layer of MgO that covers the entire substrate including both electrodes and all dielectric layers formed on the substrate or electrodes. (Column 18 lines 20-24).

Regarding claim 14, Akiba discloses the use of the first electrode as the address electrode and the second electrode as the scanning or display electrode. (Column 18 lines 4-9).

Claims 27 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US 4,999,541).

Regarding claim 27, Kim discloses (see figure 3) a plasma display panel including a first electrode (Kb), a second electrode (Tb) crossing the first electrode, and a dielectric pattern (Ib) between the first and second electrode. (Column 2 line 56 – Column 3 line 4). Kim further discloses the dielectric pattern (Ib) formed between the electrode (Kb) and perpendicular electrode (Tb) in an island pattern at all intersections of the electrodes.

Regarding claim 30, Kim further discloses the use of the first electrode as the address electrode and the second electrode as the scanning electrode. (Column 1 lines 27-43).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 4,999,541) in view of Akiba (US 6,414,435).

Regarding claim 29, Kim discloses the device as claimed (see rejection of claim 27 above) but does not appear to specify the use of a dielectric layer formed over the electrodes, dielectric pattern and substrate. The examiner notes that the recitation of a dielectric layer entirely coated on the substrate provided with the first and second electrodes and the dielectric pattern is interpreted for the purpose of examination to mean a substrate provided with a first electrode, second electrode, and dielectric pattern, where the entirety of the substrate, electrodes, and dielectric pattern are covered with a dielectric layer. However, Akiba discloses the use of a dielectric layer of MgO that covers the entire substrate including both electrodes and all dielectric layers formed on the substrate or electrodes. (Column 18 lines 20-24). The use of the dielectric layer covering the entire surface of the device's bottom substrate allows for additional protection of the electrodes from the discharge cell and additional electrical isolation between the electrodes on the bottom substrate from the electrodes on the top substrate. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate a dielectric layer formed over the electrodes, dielectric pattern and substrate into the device as disclosed by Kim in order to advantageously provide additional protection of the electrodes from the discharge cell and additional electrical isolation between the electrodes on the bottom substrate from the electrodes on the top substrate.

***Allowable Subject Matter***

Claims 1-8 are allowed.

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Claims 15, 23, and 28, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 1, and specifically comprising the limitation of a plurality of dielectric patterns formed on the substrate to have a convex surface, an electrode formed both on the dielectric layer and substrate, a second electrode for causing discharge with the first electrode and a second dielectric layer formed between the first and second electrodes.

Regarding claims 2-8, claims 2-8 are allowable for the reasons given in claim 1 because of their dependency status from claim 1.

Regarding claim 15, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 15, and specifically comprising the limitation of two electrodes formed separated by a dielectric pattern and further consisting of a radio frequency electrode.

Regarding claim 23, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 23, and specifically comprising the limitation of two electrodes formed separated by a striped dielectric pattern and further consisting of a radio frequency electrode.

Regarding claim 28, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 15, and specifically comprising the limitation



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of two electrodes formed separated by an island dielectric pattern and further consisting of a radio frequency electrode.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### *Contact Information*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (703) 305-4015. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

mph   
July 14, 2003

  
NIMESHKUMAR D. PATEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800